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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,237	02/03/2006	Guy A. Lavi	PHUS030268US	1324

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
595 MINER ROAD
CLEVELAND, OH 44143

EXAMINER	
ROZANSKI, MICHAEL T	

ART UNIT	PAPER NUMBER
3768	

MAIL DATE	DELIVERY MODE
11/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,237

Applicant(s)

LAVI, GUY A.

Examiner

Michael Rozanski

Art Unit

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/3/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3768

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group 1 (claims 1-10) in the reply filed on 10/11/07 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by **Tanaka** (US 5,793,375).

Tanaka discloses an image processing apparatus for forming a surface display image including CT imaging device 14B for providing image of a vessel tree. A surface display image is formed by a modeling process that includes an interpolation process 22, binarizing process 22, ray-casting process 24, surface voxel coordinates calculation process 26, a normal line calculation process 28, and a shading process 30. In the interpolation process, gray-level volume data consisting of voxels with gray-level values are formed. In the binarizing process, an object to be displayed is extracted as a region of interest. In the ray-casting process, a projection plane is set for the binary volume

Art Unit: 3768

data 110 in accordance with a predetermined viewing direction, thereby forming a depth image. In the surface voxel process, coordinates of the surface voxels are calculated on the basis of the depth image and transformation matrix from the screen coordinates system to the gray-level volume data coordinates system. In the normal line process, a plurality of normal lines of the surface voxels are calculated from the values of coordinates of the surface voxels in the gray-level volume data 100 with reference to voxel values of adjacent voxels near the surface voxel. Further, the shading process is performed based on surface normals obtained in the previous process (col 4, line 59-col 6, line 56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Tanaka*** as applied to claim 1, in view of ***Chen et al*** (US 6,047,080).

Tanaka substantially discloses all features of the current invention but do not specifically teach of means for determining centerlines to define a true form surface. In the same field of endeavor, Chen et al teach of an apparatus for 3D reconstruction of coronary vessels from angiographic images including detecting, segmenting, and identifying vessel centerlines and constructing a vessel hierarchy representation (col 4,

Art Unit: 3768

lines 41-51). It would have been obvious to one with ordinary skill in the art at the time the invention was made to have incorporated the known technique of Chen et al in order to improve the Tanaka invention to form a true form surface that are defined by data points of the centerlines. Further, the 3D reconstruction based on centerlines would be able to be applied to the Tanaka invention because Tanaka teach of rendering a 3D surface display, wherein the 3D image is produced based on extracted volume data (col 1, lines 41-50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rozanski whose telephone number is 571-272-1648. The examiner can normally be reached on Monday - Friday, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3768

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MR



ERIC F. WINAKUR
PRIMARY EXAMINER